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CARLSON, GASKEY & OLDS/PRATT & WHITNEY 400 West Maple Road Suite 350 Birmingham, MI 48009			KANG, EDWIN G	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SCOTT LAMSON

Appeal 2019-000840
Application 14/769,802
Technology Center 3700

Before JENNIFER D. BAHR, CHARLES N. GREENHUT, and
BENJAMIN D. M. WOOD, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision rejecting claims 1, 4, 10, 11, 16, 17, and 19, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as United Technologies Corporation. Appeal Br. 1.

CLAIMED SUBJECT MATTER

Appellant's invention is directed to a gas turbine engine component including a component body defining an internal twisted micro-channel. Spec. ¶ 4. Claims 1 and 16 are independent. Appeal Br. 7, 8 (Claims App.). Claim 1, reproduced below, is representative of the claimed subject matter.

1. A gas turbine engine component comprising:
a component body defining an internal micro-channel extending in a lengthwise direction along a reference line, the internal micro-channel having oval cross-sections along the reference line, the internal micro-channel extending between a first reference position along the reference line and a second reference position along the reference line, the internal micro-channel twisting at least 180° and up to 360° with respect to the reference line between the first reference position and the second reference position.

REFERENCES

The prior art relied upon by the Examiner is:

Lee	US 5,002,460	Mar. 26, 1991
Liang	US 7,563,072 B1	July 21, 2009
Bunker	US 2012/0243995 A1	Sept. 27, 2012

REJECTIONS²

- I. Claims 1, 4, 16, and 19 stand rejected under 35 U.S.C. § 102(b) as anticipated by Liang.
- II. Claims 10, 11, and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Liang and Bunker.
- III. Claim 19 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Liang and Lee.

² The Examiner withdrew a rejection under 35 U.S.C. § 112, first paragraph. Ans. 2; *see* Final Act. 4.

OPINION

Rejection I

Appellant groups claims 1, 4, 16, and 19 together in contesting this rejection. *See* Appeal Br. 4–6. We decide the appeal of this rejection on the basis of independent claim 1, and claims 4, 16, and 19 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (permitting the Board to select a single claim to decide the appeal as to a single ground of rejection of a group of claims argued together).

The Examiner finds that Liang discloses a gas turbine component comprising a component body as recited in claim 1. *See* Final Act. 7–8 (making reference to annotated versions of Figures 2 and 3 of Liang provided at Final Act. 7). In the annotated version of Liang’s Figure 3, the Examiner draws a reference line (labeled “A”) between the center points (labeled “B” and “C”) of two adjacent oval cross-sections at which two adjacent micro-channels (spiral flow channels 121 and 122) intersect. The Examiner finds that channel 121 extends in a lengthwise direction along the reference line and between a first reference position (point B) and a second reference position (point C) along the reference line. Final Act. 8.

Appellant argues that “the alleged reference line is a fictitious line added by the Examiner and is not actually disclosed in Liang.” Appeal Br. 5. This argument is unsound. As Appellant acknowledges, the reference line itself is not an actual structural feature, but, rather, serves merely as a reference for defining the structure of the micro-channel in claim 1. *See id.* As the Examiner explains, Liang’s Figure 3 depicts two distinct points where the centerlines of both channels cross, and, “[l]ike [in] the instant

application, one of ordinary skill in the art would recognize a reference line exists between these two points.” Ans. 4–5.³

In the Reply Brief, Appellant additionally argues that “[w]hat the Examiner refers to as reference positions ‘B’ and ‘C’ are not disclosed by Liang and were added to the annotated drawings of Liang by the Examiner.” Reply Br. 2. This argument is as unsound as the aforementioned argument about the “fictitious” reference line. Much like the reference line, the first and second reference positions in claim 1 do not denote actual structural features, but, rather, serve as references for defining the micro-channel in claim 1.

Appellant asserts that the reference line added by the Examiner is into the plane of the paper, while Liang’s channel 121 spirals within the wall in Figure 3. Appeal Br. 5. Thus, Appellant contends that Liang’s “channel 121 does not . . . extend in a lengthwise direction along the Examiner’s reference line.” *Id.* This argument is unavailing because it appears to be premised on a misunderstanding of the Examiner’s rejection. As the Examiner explains, the Examiner’s characterization of the reference line as being perpendicular to the paper (*see* Final Act. 8) “is in reference to Figure 2,” and “[t]he reference line is identified as an ‘x’ in [the Examiner’s annotated] Figure 2” (*see* Final Act. 7; Ans. 3). Ans. 5. The Examiner’s annotated Figure 3 depicts reference line A running along the plane of the paper, not into the plane of the paper. *See* Final Act. 7; Ans. 3.

³ We additionally note that the reference line, as defined in Appellant’s Specification, need not be linear. *See* Spec. ¶ 42 (stating, “Although the channel 70 extends generally linearly in the lengthwise direction in the example, the channel 70 can alternatively be non-linear, in which case the reference line L would be non-linear.”).

Lastly, Appellant argues that “[t]he reference line the Examiner drew in Liang is between two separate passages (121, 122), as shown even in the annotated Figures 2 and 3 from the Examiner’s rejection.” Appeal Br. 6. According to Appellant, “[n]either of these passages ‘extends along’ this line, as claimed. The line is outside of both passages.” *Id.*

Appellant’s argument does not identify a deficiency in the rejection because it is not factually correct, and it is not commensurate with the scope of claim 1, which does not require that the reference line be inside the micro-channel. In fact, reference line L in Appellant’s disclosed invention does not appear to be located inside micro-channel 170 as depicted in Figure 6, at least at second reference position P₂. *See* Fig. 6 (appearing to show reference line L behind micro-channel 170 at the top thereof). Further, as the Examiner points out, reference line L is outside of the micro-channels in the other embodiments as well. *See* Figs. 3, 4, 8. Contrary to Appellant’s argument, as shown in the Examiner’s annotated version of Liang’s Figure 3, the reference line (line A) identified by the Examiner is inside both passages at least at points B and C, where Liang’s channels 121 and 122 intersect. *See* Final Act. 7; Ans. 3, 7. Further, Liang’s channel 121 extends in a vertical lengthwise direction along reference line A.

For the above reasons, Appellant does not apprise us of error in the rejection of claim 1 as anticipated by Liang. Accordingly, we sustain the rejection of claim 1, as well as claims 4, 16, and 19, which fall with claim 1, as anticipated by Liang.

Rejections II and III

Appellant does not present any additional arguments contesting the rejections of claims 10, 11, 17, and 19. *See* Appeal Br. 6 (relying on the arguments presented for claims 1 and 16 in contesting the rejections of

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dependent claims 10, 11, 17, and 19). For the reasons set forth above, Appellant's arguments fail to apprise us of error in the rejections of claims 1 and 16, and, likewise, fail to apprise us of error in the rejections of claims 10, 11, 17, and 19). Accordingly, we sustain the rejection of claims 10, 11, and 17 as unpatentable over Liang and Bunker, and the rejection of claim 19 as unpatentable over Liang and Lee.

DECISION

The Examiner's decision rejecting claims 1, 4, 10, 11, 16, 17, and 19 is **AFFIRMED**.

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1, 4, 16, 19	§ 102(b) Liang	1, 4, 16, 19	
10, 11, 17	§ 103(a) Liang, Bunker	10, 11, 17	
19	§ 103(a) Liang, Lee	19	
Overall Outcome		1, 4, 10, 11, 16, 17, 19	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED